



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D2893-1
Job Sheet 173686



Part No: D2893-1

Job Qty: 10 ea

Part Name: Support



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 3/6/18

Job Tracking No:

Due Date: 4/16/18

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG REV C IPP: C 02.11.26 Reformat; Added P/O KJ IPP D 06.04.19 removed alodine EC IPP Rev:E Added priming as per Rev B 07-04-30 JLM IPP F 08.03.19 Re-format EC verified by: DD IPP Rev:G 08-05-15 add QC14 DD verified by:EC IPP Rev:H 11.08.04 as per dwg rev.C DD ver:EC

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	10 Ea	4/13/18	4/13/18	0.00	0.00	Start Up Machining-1		
100	CNC Vertical Machining	10 pcs	4/14/18	4/14/18	0.33	19.61	HAAS1-2		
120	QC	10 pcs	4/14/18	4/14/18	0.00	0.00	QC8 Machining-1		
130	Crosstubes	10 pcs	4/16/18	4/16/18	0.00	1.67	Crosstubes-2		
140	QC	10 pcs	4/16/18	4/16/18	0.00	0.00	QC3		
170	Packaging	10 pcs	4/16/18	4/16/18	0.00	0.00	Packaging3-1		
180	QC21-SA	10 Ea	4/16/18	4/16/18	0.00	0.00	QC21		

Part Op 100 - 1-Machine as per Folio FA081

Descriptions: 130 - Per note 8 on page 1 of dwg D2893, Prep inner concave surface, of support and apply 3M Scotch-Weld as per dwg.

170 - LOCATION : LG050

138381 exp 11/18

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
DSK078	D2893-1 Turning Detail	5 Ea (.5 ea)	90-Start up Operation	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	DSK078	5	6	0

1x → 5037934 4x → 5061426

Part Specifications

Spec No	Description	Target/Tolerance	Limits	Type	Special Comments
1	2.750 Support	2.985Inches + 0.020 - 0.000	3.005 2.985		
2	2.750 Support	0.440Inches + 0.020 - 0.000	0.460 0.440		
3	2.750 Support	0.125Inches + 0.035 - 0.000	0.160 0.125		
4	2.750 Support	0.040Inches + 0.020 - 0.000	0.060 0.040		
5	2.750 Support	0.188Inches + 0.005 - 0.000	0.193 0.188		

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

6	2.750 Support	0.125Inches	+ 0.035 - 0.000	0.160 0.125
7	2.750 Support	0.140Inches	+ 0.020 - 0.000	0.160 0.140
8	2.750 Support	1.360Inches	+ 0.040 - 0.000	1.400 1.360
9	2.750 Support	0.040Inches	+ 0.020 - 0.000	0.060 0.040
10	2.750 Support	1.190Inches	+ 0.040 - 0.000	1.230 1.190
11	2.750 Support	0.010Inches	+ 0.010 - 0.000	0.020 0.010
12	2.750 Support	0.053Inches	+ 0.020 - 0.000	0.073 0.053
13	2.750 Support	0.240Inches	+ 0.020 - 0.000	0.260 0.240
14	2.750 Support	2.518Inches	+ 0.020 - 0.000	2.538 2.518
15	2.750 Support	84.390Inches	+ 6.000 - 0.000	90.390 84.390
16	2.750 Support	0.261Inches	+ 0.005 - 0.000	0.266 0.261
17	2.750 Support	0.053Inches	+ 0.020 - 0.000	0.073 0.053

Plex 3/6/18 12:52 PM Dart.lajeunesse.marie

DART
AEROSPACE

Container No: S063390

Part: D2893-1
Job No: 173686
Serial No/Batch: S063390
Revision:
Inspector:

1410 PAVILION DRIVE
Hawkesbury, ON K84 1K7
CANADA
TEL.: 1 813 832-6200
Email: sales@dartaero.com
www.dartaerospace.com

Date: 04/20/18

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		FAULT CATEGORY Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : _____			

DART AEROSPACE LTD		Work Order:	
Description: Ø2.750 Support		Part Number:	D2893-1
Inspection Dwg: D2893	Rev: C	Page 1 of 1	

FIRST ARTICLE INSPECTION DIMENSION SHEET

				Record Actual Dimensions				
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	5
HAAS Section								
AA	2.985	3.005	2	2.995	2.996	2.995	2.996	2.991
AB	0.440	0.460		.455	.453	.455	.454	.455
AC	0.125	0.160		.138	.141	.140	.140	.140
AD	0.040	0.060		.054	.056	.052	.052	.054
AE	0.188	0.193		.188	.188	.188	.188	.188
AF	0.125	0.160		.141	.140	.139	.141	.138
AG	0.140	0.160		.153	.155	.152	.153	.153
AH	1.360	1.400		1.379	1.380	1.373	1.375	1.374
AI	0.040	0.060		.048	.048	.047	.048	.049
AJ	1.190	1.230		1.219	1.220	1.217	1.218	1.219
AK	0.010	0.020		.012	.012	.012	.012	.012
AL	0.053	0.073		.063	R.063	R.063	R.063	R.063
AM	0.240	0.260		.250	R.250	R.250	R.250	R.250
AN	2.518	2.538		2.535	2.534	2.538	2.538	2.538
AO	84.39	90.39		86.00	86.00	86.00	86.00	86.00
AP	0.261	0.266		.261	.261	.261	.261	.261
AQ	0.053	0.073		.063	R.063	.063	.063	R.063
AR								
AS								
AT								
Accept/Reject								

Measured by:	<i>uu</i>	Date:	2018/04/19
Audited by:	<i>B.P</i>	Date:	18-04-26
Preliminary Approval:		Date:	

Rev	Date	Change	Revised by	Approved
A	02.12.13	New Issue	KJ/RF	
B	07.05.08	Dimension AP revised	KJ/JLM	
C	08.04.21	Reformat	KJ/JLM	
D	12.07.31	Dwg Rev updated	KJ	<i>[Signature]</i>

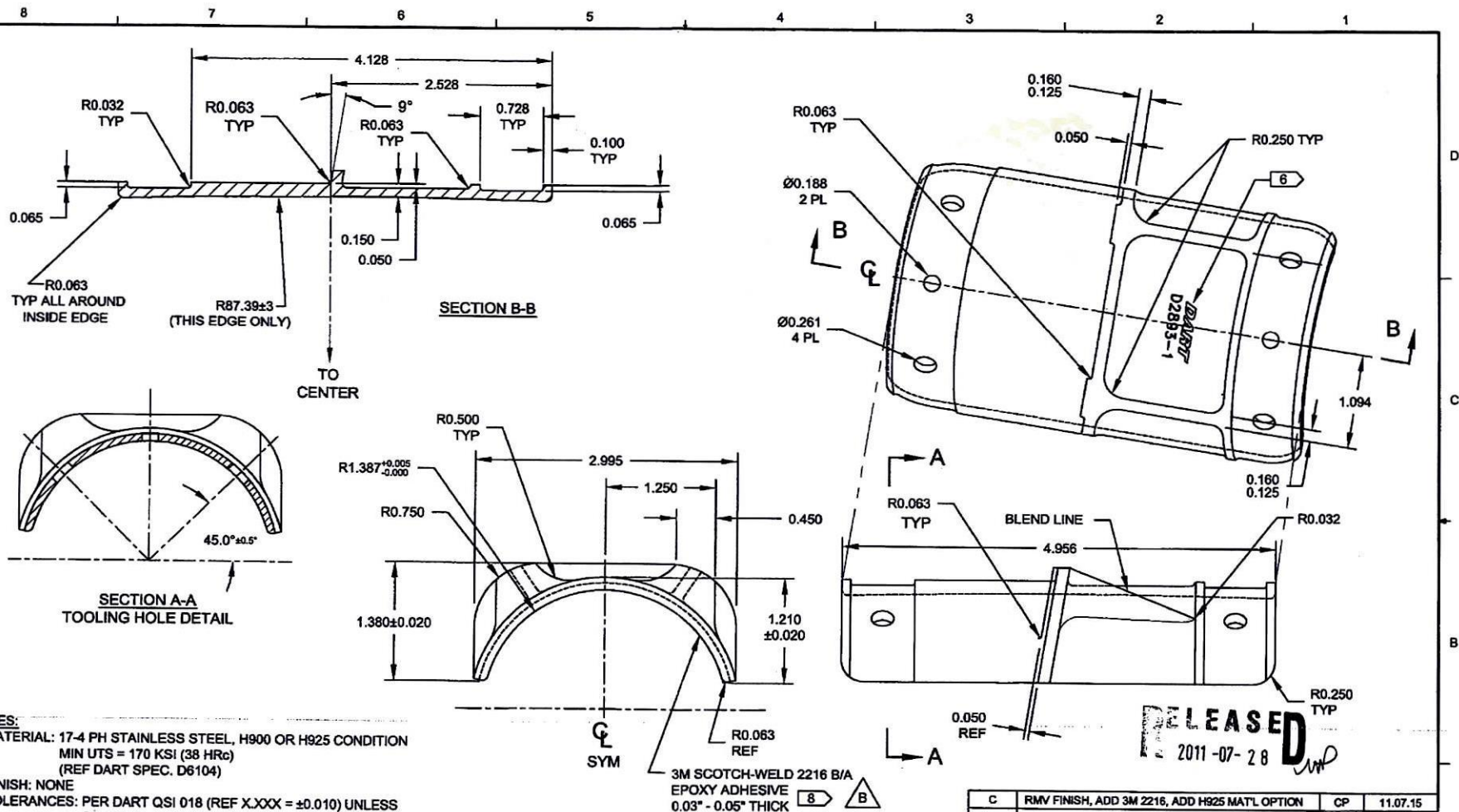
DART AEROSPACE LTD		Work Order:	
Description: Ø2.750 Support		Part Number: D2893-1	
Inspection Dwg: D2893		Rev: C	
		Page 1 of 1	

FIRST ARTICLE INSPECTION DIMENSION SHEET

				Record Actual Dimensions				
Dim	Min	Max	Go/No Go Gauge	6	7	8	9	10
HAAS Section								
AA	2.985	3.005		2.993	2.990	2.991	2.990	2.990
AB	0.440	0.460		0.455	0.455	0.455	0.455	0.455
AC	0.125	0.160		0.135	0.160	0.160	0.160	0.150
AD	0.040	0.060		0.047	0.050	0.050	0.050	0.050
AE	0.188	0.193		0.188	0.188	0.188	0.188	0.188
AF	0.125	0.160		0.140	0.142	0.142	0.142	0.142
AG	0.140	0.160		0.140	0.150	0.150	0.150	0.150
AH	1.360	1.400		1.373	1.373	1.373	1.373	1.373
AI	0.040	0.060		0.043	0.050	0.050	0.050	0.050
AJ	1.190	1.230		1.208	1.208	1.210	1.210	1.210
AK	0.010	0.020		0.012	0.012	0.012	0.012	0.012
AL	0.053	0.073		0.063	0.063	0.063	0.063	0.063
AM	0.240	0.260		0.250	0.250	0.250	0.250	0.250
AN	2.518	2.538		2.530	2.529	2.528	2.529	2.529
AO	84.39	90.39		87.39	87.39	87.39	87.39	87.39
AP	0.261	0.266		0.261	0.261	0.261	0.261	0.261
AQ	0.053	0.073		0.063	0.063	0.063	0.063	0.063
AR								
AS								
AT								
Accept/Reject				✓	✓	✓	✓	✓

Measured by: <i>VX</i> ^{DAS} 1	Date: 2018-04-21
Audited by: <i>B.e</i> ⁹⁻⁸⁹	Date: 18-04-26
Preliminary Approval:	Date:

Rev	Date	Change	Revised by	Approved
A	02.12.13	New Issue	KJ/RF	
B	07.05.08	Dimension AP revised	KJ/JLM	
C	08.04.21	Reformat	KJ/JLM	
D	12.07.31	Dwg Rev updated	KJ	<i>[Signature]</i>



NOTES:

- 1) MATERIAL: 17-4 PH STAINLESS STEEL, H900 OR H925 CONDITION
MIN UTS = 170 KSI (38 HRC)
(REF DART SPEC. D6104)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 (REF X.XXX = ±0.010) UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: DART LOGO (PER DART SUPPLIED GRAPHIC) AND PART NUMBER IN THIS AREA WITH 0.125 HIGH LETTERING
0.010-0.020 DEEP, PER DART QSI 044 6.3.
- 7) WEIGHT: 0.78 lb
- 8) FOR THE ENTIRE INNER CONCAVE SURFACE:
ABRADE SURFACE WITH 400-GRIT SANDPAPER. REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY 0.03" TO 0.05" THICK LAYER OF 3M SCOTCH-WELD 2216 B/A ADHESIVE TO MATING SURFACE OF SUPPORT. ALLOW TO CURE FOR 24 HOURS.

C	RMV FINISH, ADD 3M 2216, ADD H925 MAT'L OPTION	CP	11.07.15
B	UPDATE DIMS AS MFG, PRIME INSIDE	PH	07.03.16
A	NEW ISSUE	CP	01.01.10
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	11.07.15		

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. D2893	REV. C SHEET 1 OF 1
TITLE Ø2.750 SUPPORT	SCALE NTS
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